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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,422	03/29/2001	Michael Y. Frankel	345	3665

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EXAMINER	
PAYNE, DAVID C	

ART UNIT	PAPER NUMBER
2633	6

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/682,142	FRANKEL, ET AL.	
	Examiner	Art Unit	
	David C. Payne	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-23 and 25-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-23* is/are rejected.

7)☒ Claim(s) *25-28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/3-18-2004*. ✓
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 16-28 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al. US 2002/0048062 (Sakamoto) in view of Leng et al. US 6,339,663 B1 (Leng).

Re claim 16, Sakamoto disclosed

A communications network comprising:

an optical transmitter emitting an optical signal at a first wavelength (Figure 10, 111A);

an optical communication path optically coupled to said optical transmitter (Figure 10, optical transmission path L), said optical communication path being configured to carry said optical signal;

a service channel emitter (Figure 6, 41B) optically coupled to one of said optical communication path, said service channel emitter supplying a service channel optical signal

to said one of said optical communication path, said service channel optical signal being at a second wavelength different than said first wavelength (see e.g., Sakamoto paragraph 90);

a dispersion compensating module optically coupled to said optical communication path (Figure 9, 33) , said dispersion compensating module having an associated dispersion characteristic (see e.g., Sakamoto paragraph 77).; and

a control circuit operatively coupled to said dispersion compensation module (Figure 9, 35), said control circuit being configured to adjust a dispersion characteristic associated with said dispersion compensating module in response to data carried by said service channel (see e.g., Sakamoto paragraphs 81, 89, 94, 98).

Sakamoto does not disclose sending the supervisory signal onto an alternate path.

Leng disclosed sending supervisory signals onto an alternate communication path (see e.g., Leng Figure 1, WORK, PROTECTION, λ_{SC}). It would have been obvious to one of ordinary skill in the art at the time of invention use alternate paths in the Sakamoto system for protection against failures (see e.g., Leng col./line: 3/25-40).

Re claim 17, Sakamoto disclosed

Optical Signal Noise Ratio (OSNR) and Bit Error Rate (BER) as signal quality information in the service channel (see e.g., Sakamoto paragraph 81).

Regarding claim 18, Sakamoto disclosed

a plurality of optical transmitters at respective wavelengths (Figure 1), but not where said dispersion characteristics being adjusted such that said optical signal and each of said

plurality of optical signals has substantially the same dispersion.

However it would have been obvious to one of ordinary skill in the art at the time of invention to control the dispersion to substantially the same level for each optical signal so that the a signal would be received at the far end with primarily the same signal characteristics of all the other signals and therefore reduce signal dependent error rates.

4. Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al. US 2002/0048062 (Sakamoto) and Leng et al. US 6,339,663 B1 (Leng) as applied to claims 16 and 18 above, and in further view of Sasaoka et al. US 6,574,404 B2 (Sasaoka).

Regarding claim 19,

the modified invention of Sakamoto and Leng does not disclose wherein said dispersion is substantially zero.

Sasaoka disclosed wherein said dispersion is substantially zero (see e.g. Sasaoka, col./line: 3/45-50). It would have been obvious to one of ordinary skill in the art at the time of invention to suppress waveform degradation of each signal to enable a signal transmission of high bit rate (see e.g. Sasaoka, col./line: 2/1-5).

Regarding claim 20,

the modified invention of Sakamoto and Leng does not disclose wherein said control circuit uses a thermal regulator.

Sasaoka disclosed a controller (Figure 7 #55) coupled to and supplying a control signal to a

thermal regulator (#500) (e.g., col./line: 11/20-25). It would have been obvious to one of ordinary skill in the art at the time of invention to maintain temperature to a desired value and thereby control chromatic dispersions in the dispersion compensating optical fiber (see e.g. Sasaoka, col./line: 11/35-40).

Regarding claim 21,

the modified invention of Sakamoto, Leng and Sasaoka disclosed wherein said First circuitry (temperature sensor) (Figure 7 #53), Second circuitry (temp. control circuit) and thermal regulator (Figure 7 #54 and #55) as part of the thermal regulator.

Regarding claim 22,

the modified invention of Sakamoto and Leng does not disclose a

thermally conductive casing for DCF.

Sasaoka disclosed a thermally conductive casing for the DCF (e.g., col./line: 11/20-25). It would have been obvious to one of ordinary skill in the art at the time of invention to maintain temperature to a desired value and thereby control chromatic dispersions in the dispersion compensating optical fiber (see e.g. Sasaoka, col./line: 11/35-40).

Regarding claim 23,

the modified invention of Sakamoto and Leng does not disclose a first and second DCF controllers. Sasaoka disclosed a first and second DCF controller (Figure 8 #231 and #221). It would have been obvious to one of ordinary skill in the art at the time of invention to control

the dispersion along the entire length of the fiber as temperature variations will exist over large distances.

Allowable Subject Matter

5. Claims 25-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

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